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Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
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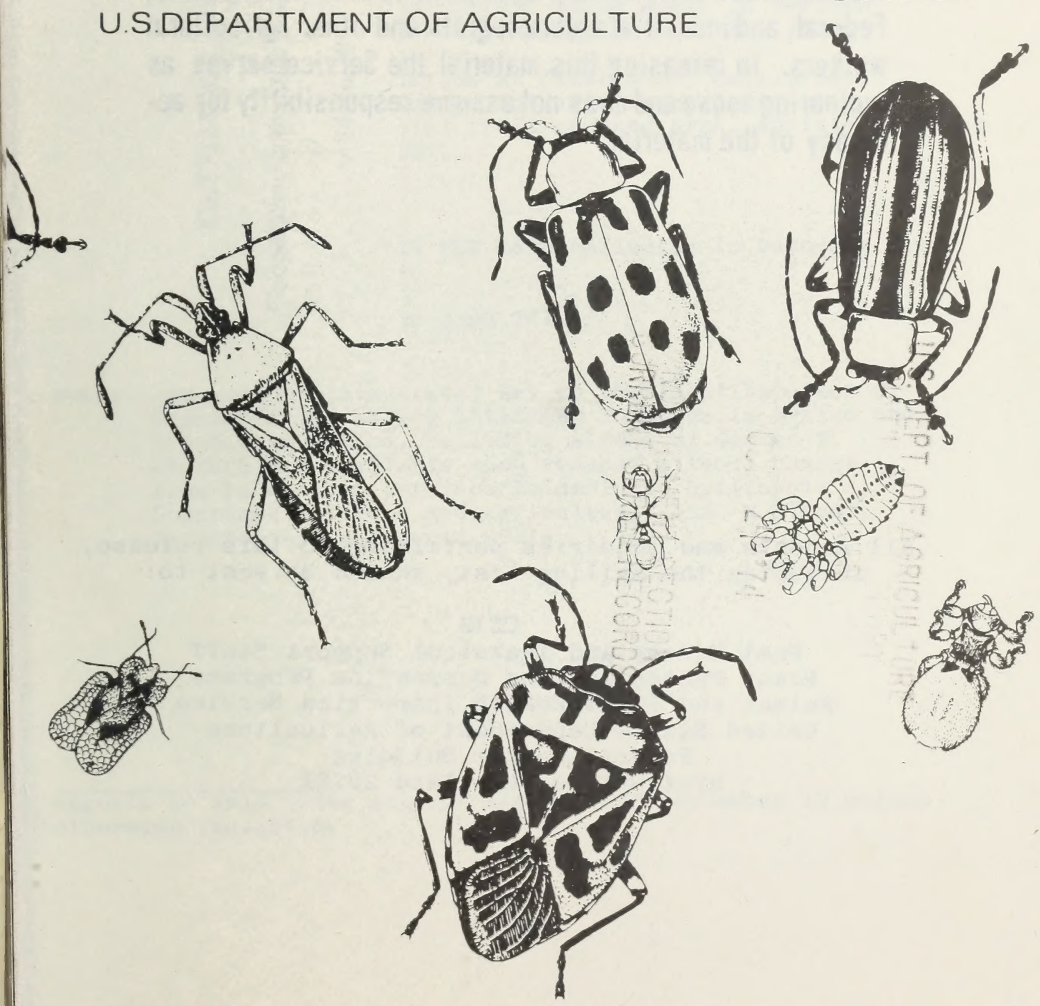

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 24 September 20, 1974 Number 38

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM larvae heavy in soybeans across South Carolina, but a larval disease is widespread and exerting some control; damaging populations decreased in North Carolina. (p. 753).

VELVETBEAN CATERPILLAR increasing on soybeans in Savannah Valley and MEXICAN BEAN BEETLE heavy on early soybeans across South Carolina. (p. 755).

BOLLWORMS continued to increase on cotton in western Tennessee and continued at heaviest levels ever known across Alabama. BOLL WEEVIL damage to small cotton bolls heavy in western Tennessee, weevils heavy in Mississippi. (pp. 756, 757).

ORIENTAL FRUIT FLY infestation at Clairemont, California, involves about 10 square miles but area is residential and recreational, not commercial fruit-growing area. Additional flies have been captured. (p. 761).

Detection

- Single ORIENTAL FRUIT FLY male collected in Panorama City, California. (p. 761).

For new county records see page 761.

NOTE: Reprints of Illustrated Key to the Identification of Lepidopterous Larvae Attacking Tomatoes in Mexico and the United States, Excluding Alaska by George T. Okumura are available upon request without charge from Laboratory Services/Entomology, California Department of Food and Agriculture, 1220 N Street, Sacramento, California 95814.

Reports in this issue are for week ending September 13 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 16

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Cold air following the passage of a slow moving front, surged into the U.S. from Canada at midweek spreading cooler than normal temperatures across a wide section of the Central States and the West. Scattered morning frost was reported in many North Central States on Thursday and Friday before the cold air gradually drifted to the southeast. Rain fell in the Midwest throughout the week along the leading edge of the cool air mass which moved slowly southeastward. Significant precipitation occurred from Texas north through Minnesota and east through New England.

PRECIPITATION: The remnants of Hurricane Carmen finally diminished over south-central Oklahoma late Tuesday. Carmen, a relatively dry hurricane, produced heavy precipitation over east Texas: Victoria 5.50 inches, Houston 4.29 inches. Further west a complex Low pressure system triggered occasional showers in Arizona and New Mexico, and some light rain in the Pacific Northwest. Considerable rain fell across the Midwest on several days as the cold front moved slowly eastward. From 1 to 2 inches fell across the central Corn Belt, with 0.50 to 1 inch in the eastern and western Corn Belt. Elsewhere, considerable thunderstorm activity caused spotty precipitation in Florida: Lakeland reported 3.23 inches, Jacksonville 6.72 inches. Early Monday, Hurricane Carmen, now a tropical storm, caused widespread rain and a few thunderstorms from its center in southeastern Texas through the lower Mississippi Valley to northwestern Florida and the Ohio River. Showers and thundershowers, with some locally heavy rains, hit portions of eastern Texas, Oklahoma, Arkansas, and Louisiana on Tuesday. Idabel, Oklahoma, received over 4 inches of rain in 4 hours. Wednesday, unseasonably cold air triggered one inch of snow at Lander, Wyoming, and snow was also reported near Lewiston, Montana. Weather of the week continued on page 764.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - SOUTH CAROLINA - Larvae of this species and Spodoptera frugiperda (fall armyworm) reported on grasses in Newberry and Darlington Counties. (Thomas).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Ranged light to moderate in soybeans in Wagoner, Muskogee, and McCurtain Counties. Light in soybeans in Garvin County and in peanuts in Caddo, Washita and Marshall Counties. (Okla. Coop. Sur.). ARKANSAS - Infestations decreased in southeast area soybeans; very few fields treated. (Boyer). ALABAMA - Very light in 40 soybean fields surveyed in Marshall, Tuscaloosa, Greene, Madison, and Hale Counties. Controls begun in Conecuh County on several thousand acres of soybeans where this pest and other foliage feeders present. (Wood et al.). SOUTH CAROLINA - Heavy larval infestation caused heavy damage to 160 acres of grain sorghum in Lexington County. (Jones). Larvae heavy in soybean fields across State. Larval disease widespread in all fields and providing some control and increasing. (Thomas).

NORTH CAROLINA - Surveys for corn earworm in Sampson, Duplin, Wayne, and Nash Counties indicated decrease in number of soybean fields with damaging populations. Pupation occurred in all areas of Coastal Plain. Number of open canopy fields sampled at threshold level decreased to about 10 percent compared to 50 percent previous period. (Hunt). VIRGINIA - Sample of 28 soybean fields (666.5 acres) in Isle of Wight County showed average of 1.8 larvae per 30 row feet. None of fields yet reached numbers normally required for treatment. In Westmoreland County (30 fields, 670 acres), larvae per 30 row feet averaged 2.2. None of 58 fields surveyed required treatment. (Allen).

MAINE - To date, no corn earworm larvae reported in corn ears in central area. (Gall). MICHIGAN - No adult activity noted in light traps. This is very unusual and growers should be very watchful because there may be pockets of activity not detected by traps. (Liebherr). WASHINGTON - Infestation 70 percent on experimental corn trials (late plantings) near Othello, Adams County. (Antonelli).

POTATO LEAFHOPPER (Empoasca fabae) - MICHIGAN - Heavy in some alfalfa fields. Pest will be present until first heavy frost and can damage alfalfa if warm weather continues. Growers planning to cut hay within next 7 days should check fields and treat if necessary. (Ruppel).

CORN, SORGHUM, SUGARCANE

CORN ROOTWORMS (Diabrotica spp.) - MICHIGAN - Adults, especially D. virgifera (western corn rootworm) still feeding in corn. Many migrated to other plants. D. virgifera definitely increased in northern counties where D. longicornis (northern corn rootworm) no problem in past. This could be most serious effect of appearance of pest in State. Growers with fields of continuous corn urged to check for adults. This is about last chance of season. (Ruppel). INDIANA - D. virgifera adult collected on corn in Steuben County September 7, 1974, by J.M. Thieme. Determined by T. Turpin. This is a new county record. Pest now recorded in all counties of 3 northern districts. (Turpin).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - OKLAHOMA - Stalk infestations ranged 6-90 percent in cornfields checked in Texas County. (Okla. Coop. Sur.). ALABAMA - Light in two Marshall County cornfields, with one stalk per 30 row feet girdled and fallen. First observed girdled stalks of season. Larvae at tap roots still in summer form. (Wood et al.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MAINE - All corn checked one to four percent infested. Heavy infestation, about 25 percent, noted in one field near Dexter, Penobscot County. (Gall).

FALL ARMYWORM (Spodoptera frugiperda) - MISSISSIPPI - Full-grown larvae infested 25 percent of sorghum plants in 80 acres grown for silage in Oktibbeha County. Larval damage evident on preboot sorghum grown for hay in Clay County. Generation completed larval stage and pupated. (Robinson).

FIRE ANT (Solenopsis geminata) - SOUTH CAROLINA - Collected from Chesterfield County cornfield by J.T. Squires September 14, 1974. Determined by V.H. Owens. This is a new county record. (McCaskill).

BANKS GRASS MITE (Oligonychus pratensis) - NEW MEXICO - Counts remained at 1-2 colonies per sorghum plant in Roosevelt and Lea Counties. Lateness of season and weather may prevent heavy damage in these areas, though late crops still should be watched. (N.M. Coop. Rpt.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NEBRASKA - Still present but economic importance decreasing as most corn nears hard dent stage. Treatment advised on one late-planted cornfield west of Elgin, Antelope County. Average of 3 leaves per plant killed and colonies present above ear. (Koinzan).

SMALL GRAINS

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Heavy, localized infestations found in volunteer wheat in Jackson County. (Okla. Coop. Sur.).

WHEAT STEM SAWFLY (Cephus cinctus) - NORTH DAKOTA - Cutting prevalent in roadside bromegrass in Williams County; up to 10 percent cut stems in some areas. (Brandvik).

TURF, PASTURES, RANGELAND

A SOD WEBWORM (Crambus trisectus) - MARYLAND - Larvae heavily damaged 15 acres of bluegrass sod near Olney, Montgomery County, averaged 5 per square foot. (U. Md., Ent. Dept.). MICHIGAN - Adult flights numerous in central area, particularly in lush grass. No controls suggested this year. Sod should be assessed for damage in spring 1975 and appropriate action taken if necessary. (Liebherr).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Ranged up to 12 larvae per 25 sweeps in Valencia County alfalfa. (N.M. Coop. Rpt.). MISSOURI - Adults light to moderate on alfalfa. Counts per 10 sweeps ranged 2-16 in central area and 0-41 in west-central area. (Munson).

EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) - WEST VIRGINIA - Twenty adults collected on bouncing bet near railroad yard at Grafton, Taylor County, September 10, 1974. Collected by J.D. Hacker, S.A. Moore, and A.E. Tustin. Determined by J.D. Hacker. This is a new county record. (Hacker).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Up to 170 larvae per 25 sweeps recovered from alfalfa in southern Valencia County. (N.M. Coop. Rpt.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Ranged 13-27 per 25 sweeps in alfalfa near Los Lunas, Valencia County. (N.M. Coop. Rpt.).

SOYBEANS

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Damage heavy in Garvin County; ranged moderate to heavy in Wagoner, Muskogee, and McCurtain Counties. (Okla. Coop. Sur.). MISSISSIPPI - Ranged light to heavy in soybeans in Monroe, Clay, and Oktibbeha Counties. No economic damage noted. (Robinson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Larvae damaged large field in Marengo County; controls applied. Heavily damaged another field in county. Larvae ranged 10-20 per 3 row feet in 500-acre field in Gallin Community; field treated September 9. (Yates). SOUTH CAROLINA - Light to moderate populations present on soybeans in Savannah Valley area of State; populations increasing. (Thomas).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH CAROLINA - Collected from soybeans in Marlboro County by R.C. Smith August 28, 1974. Determined by C.A. Thomas. This is a new county record. (McCaskill).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Heavy infestations present statewide on early planted soybeans. Infestations still light on late planted beans. (Thomas). TENNESSEE - Caused heavy damage in about 10 percent of fields surveyed in Franklin County. Defoliation heavy. Soybeans not fully matured; damage will occur if controls not applied. (Cagle). VIRGINIA - Sample of 30 fields in Westmoreland County (670 acres) showed average of 33.2 beetles per 30 row feet. Defoliation averaged 6 percent. In Isle of Wight County, 28-field project (666.5 acres) averaged 48.08 beetles per 30 row feet. Average defoliation 13.8 percent. This was much of an increase from last period stressing need for weekly surveys. Three economic infestations (11 percent of all fields) encountered in Isle of Wight County and 2 economic infestations (13 percent of all fields) detected in Westmoreland County. (Allen).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ALABAMA - Adults damaged several Green County fields; controls applied to one 40-acre field. Much adult feeding on pods observed in many Marengo County fields; younger fields may be damaged by heavy infestation in county. (Henderson et al.).

GREEN STINK BUG (Acrosternum hilare) - VIRGINIA - One of 28 fields sampled in Isle of Wight County exceeded recommended treatment threshold; none economic in Westmoreland. (Allen). SOUTH CAROLINA - Populations of this species and Nezara viridula (southern green stink bug) heavy on soybeans statewide. About one-fifth of soybean acreage in State noted with economic infestations. (Thomas).

PEANUTS

REDNECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Terminal infestations averaged 37 percent in Marshall County. This unusually light for September. (Okla. Coop. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - OKLAHOMA - Adults taken in light trap in Marshall County; larvae should appear on peanuts soon. (Okla. Coop. Sur.).

COTTON

BOLLWORMS (Heliothis spp.) - TENNESSEE - Continued to increase in many late fields in western area, but below control levels in most cases. (Locke, Patrick). Heavy in many central area fields. Damaged bolls ranged up to 20 percent in many Franklin and Lincoln County fields. (Cagle). GEORGIA - Average larval counts per 100 sweeps ranged 2-3 and 27 percent of fields above economic threshold in Dooly, Colquitt, and Terrell Counties. Larval damage increased as squares became less available. (Boone). ALABAMA - Infestation continued statewide at heaviest level ever known; controls difficult. Moth flights in northern and central areas equally H. zea (bollworm) and H. virescens (tobacco budworm). Heliothis spp. and Spodoptera exigua (beet armyworm) larvae heavy in large fields where control applications poor or stopped during latest rainy period. (Yates et al.).

MISSISSIPPI - In Bolivar County cotton test area, Heliothis spp. eggs averaged 25,887 per acre and larvae 2,287 per acre in 30-acre scheduled insecticide plot; in 30-acre plot where no insecticides applied, eggs averaged 114 per acre and larvae averaged 5,147 per acre. Percent larval damaged squares in treated area 5.57 and 8.40 in untreated area. Percent damaged bolls in treated plot 1.97 and 3.90 in untreated plot. Total boll counts in treated plots 315,000 per acre and 362,000 per acre in untreated plots. (Andrews). OKLAHOMA - In Jackson, Tillman, Harmon, Greer, and Kiowa Counties, eggs ranged 5-25 and larvae 3-38 per 100 terminals; damaged squares ranged 4-18 percent. Counts in area heaviest in Jackson County. In Wagoner and Muskogee Counties, eggs ranged 0-10 and larvae 0-15 per 100 terminals. H. virescens (tobacco budworm) very heavy in Washita and Caddo Counties. (Okla. Coop. Sur.). NEW MEXICO - Damage by H. zea larvae still light, with 0-8 bolls per 100 affected in Dona Ana County. Damage up to 50 percent noted in fields near Lovington, Lea County. (N.M. Coop. Rpt.).

BEET ARMYWORM (Spodoptera exigua) - OKLAHOMA - Larvae moderate and caused some square damage in Jackson and Greer Counties. (Okla. Coop. Sur.).

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - Punctured squares ranged 18-83 (average 28) percent in 29 fields of late cotton in western area. Damage heavy to small bolls over area. Squares in older cotton too scarce for counts. Weevil migration still heavy over area. Cotton maturing rapidly, some bolls opening. (Locke, Patrick). GEORGIA - Average percent punctured squares by county: Colquitt 13, Dooly 7, Terrell 7. Sixteen percent of fields above economic threshold, decline from previous period. (Boone). ALABAMA - Continuous "hatch-out" statewide and reduced number of squares resulted in heavy punctured square counts of 10-100 percent in most fields. Feeding and egg laying punctures observed on young and older bolls. Damaged bolls caused excessive boll rot in most fields. (McQueen).

MISSISSIPPI - Boll weevil punctured squares still heavy in infested areas of State. Most concern now is effect adults will have on small bolls. (Robinson). OKLAHOMA - Percent punctured square counts by county; Tillman ranged up to 29, Jackson up to 22, Kiowa up to 19, Greer up to 12, Caddo and Washita up to 50. Averaged 8 percent in Wagoner County, 18 percent in Muskogee County. (Okla. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

GREEN PEACH APHID (Myzus persicae) - IDAHO - Found in all potato fields inspected in Grindstone Butte area, Owyhee County, and Bel Rapids area, Twin Falls County. All leaves inspected in some fields with aphids. Three-hundred winged aphids per trap found during early September. (Walz). DELAWARE - Heavy on some peppers in western Sussex County. (Burbutis).

BEANS AND PEAS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH CAROLINA - Collected from peas in Laurens County September 2, 1974, by T. Reeves. Determined by C.A. Thomas. This is a new county record. (McCaskill).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - COLORADO - Pheromone trap catches indicate very few moths flying in Western Slope orchards. (Bulla). IDAHO - Pheromone trap catches in Moscow area, Latah County: 3 moths September 6; 4 moths September 7; 2 moths September 8; 2 moths September 9; none September 10, 11, 12, and 13. (Portman). WASHINGTON - Pheromone trap catches in Grant and Adams County area, week ending September 7, ranged 0-24. Counts lighter than previous week. New larval entries noted on winter apples September 8 at Pullman, Whitman County. (Hunter, Telford).

PEACHTREE BORER (Sanninoidea exitiosa) - GEORGIA - Adults increased in peach-growing areas; ranged 10-12 male moths per pheromone trap per day. (Gentry).

TWIG GIRDLER (Oncideres cingulata) - OKLAHOMA - First activity of season reported on pecan trees in Cherokee County. (Okla. Coop. Sur.).

PECAN WEEVIL (Curculio caryae) - GEORGIA - Detection indicated adult populations apparently peaked in Peach County; averaged 40 per tree in sticky-band traps. (Payne). MISSISSIPPI - Emergence continued to increase in Hinds, Lowndes, Quitman, and Wilkinson Counties. Pecan nut puncturing increased. (Neel).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - Larvae active in unsprayed English walnuts in Dundee area, Yamhill County. First damage noted September 4. In treated orchards, second application made September 3; no economic adult populations found in bait traps since. Average adult counts per trap per day before spraying 37; averaged 2.4 adults per trap per day after spraying. (Larson).

BLACK PECAN APHID (Tinocallis caryaefoliae) - GEORGIA - Damage increased on untreated pecan trees in Peach and Dougherty Counties. (Payne, Gentry).

PECAN SPITTLEBUG (Clastoptera achatina) - MISSISSIPPI - Extremely heavy on local trees in Quitman County. (Mitchell).

FOREST AND SHADE TREES

BALSAM WOOLLY APHID (Adelges piceae) - OREGON - Collected on subalpine fir (Abies lasiocarpa) at head of Tiger Creek in Umatilla National Forest, Umatilla County, May 8, 1974, by T. Gregg. Determined by R. Mitchell. This is a new county record and significant extension of range as this aphid only previously known from west side of Cascade Range in State. Survey underway to determine extent of infestation in Blue Mountains. (Gregg).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - WEST VIRGINIA - Adults collected on pin oak in Greenbrier County near White Sulphur Springs September 10, 1974, by G.W. Gibson. Determined by A.R. Miller. Adults collected on white oak at Wheeling, Ohio County, September 12, 1974. Collected and determined by J.D. Hacker. These are new county records. (Hacker).

COTTONWOOD LEAF BEETLE (Chrysomela scripta) - NEW MEXICO - Light to heavy activity noted on Populus spp. and Salix spp. near Los Lunas, Valencia County, and Albuquerque, Bernalillo County. One row of cottonwoods in Albuquerque area severely damaged. All stages of insect currently active. (N.M. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - MISSOURI - Nearly full-grown larvae ranged light to moderate throughout central and southern areas. Webs observed on persimmon, wild plum, walnut, pecan, and many other trees. (Munson).

ARBORVITAE LEAFMINER (Argyresthia thuiella) - MICHIGAN - Severe damage to cedar and arborvitae noted in many northern counties. Trees brown and foliage dropped as result of larval leafmining. Valuable specimens may be protected in 1975 with chemical spray. Little can be done to limit populations under forested situations. (Liebherr).

VARIABLE OAKLEAF CATERPILLAR (Heterocampa manteo) - MICHIGAN - Larval development delayed about 14 days due to unseasonably cool weather. Parasitism averaged 74 percent, will greatly reduce population. (Liebherr).

ORANGESTRIPED OAKWORM (Anisota senatoria) - MARYLAND - Heavy outbreak noted on various oak species planted along highways and U.S. Interstate Highway 70-S in Montgomery County. Many trees completely defoliated. (U. Md., Ent. Dept.).

WALKINGSTICK (Diapheromera femorata) - OKLAHOMA - Light numbers taken from blackjack oak 7 miles north of Sallisaw, Sequoyah County, September 11, 1974. Collected and determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 153 cases reported from continental U.S. during period August 25-31 as follows: Texas 142, New Mexico 4, Arizona 6, Oklahoma 1. Total of 409 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 158,074,200 as follows: Texas 141,489,000 New Mexico 5,722,200; Arizona 10,773,000; California 90,000. Total of 40,888,800 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - TENNESSEE - Ranged 0-25 per head of cattle checked in Henderson County. (Turpen). OKLAHOMA - Averaged 300 per head on Payne County cattle. Heavy in Comanche County, light in Canadian and Mayes Counties. Ranged 50-500 per head in Wagoner County. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - OKLAHOMA - Collected from fresh cow manure at Collinsville, Tulsa County, August 21, 1974, by D.C. Arnold. Determined by D.C. Arnold and J.A. Hair. This is a new county record. (Okla. Coop. Sur.). MISSISSIPPI - Populations increased again after recent cool weather in Monroe County, one herd averaged 6 per face. One beef cattle herd averaged 18 per face in Chickasaw County. (Robinson). TENNESSEE - None found on cattle checked in Henderson County. (Turpin).

KENTUCKY - Face fly adults taken near cattle in Shelby and Franklin Counties July 17, 1974. Collected and determined by D.E. Barnett. Confirmed by F. Knapp. These are new county records. Adults averaged 26.6 per animal in Woodford County and 7.9 per animal at one Fayette County location. (Barnett).

A BIBIONID FLY (Plecia nearctica) - GEORGIA - Populations heavy along highways in southeast area; annoying and hazardous to motorists. (Barry).

A LOUSE FLY (Hippobosca longipennis) - CALIFORNIA - Intensive survey in cheetah preserve of San Pasqual Wild Animal Park, San Diego County, revealed heavy adult population on all animals. Pupal deposits located, pupae collected. Pupae placed in rearing cages July 30; single adult emerged August 19. Six additional flies emerged August 25. These 6 flies retained in rearing cages without food and water; still active 13 days later. As pupae collected in wild, date of deposition not known. (Cal. Coop. Rpt.).

MOSQUITOES - OHIO - Dry summer prevented large population buildup and probably effected low encephalitis incidence. Recent rainfall resulted in increased Aedes triseriatus populations. Two minature light traps operated in Toledo vicinity of Lucas County September 9 collected 473 mosquitoes including Aedes vexans, Anopheles walkeri, Culex spp., Coquillettidia perturbans, Culex erraticus, A. triseriatus, and A. punctipennis. In Mansfield, Richland County, 18 light traps and 3 bite collections netted 631 specimens; Culex spp., A. trivittatus, A. vexans, A. triseriatus, A. canadensis, A. cinereus, and Orthopodomyia signifera. (Ohio Dept. Health). MINNESOTA - Eggs collected September 10, 1974, in Metropolitan Mosquito Control District revealed 70 percent diapause. This percentage present in Aedes vexans and A. triseriatus eggs. Light trap collections decreased significantly with 219 females taken in total of 98 trap nights. (Minn. Pest Rpt.).

STORED PRODUCTS

POTATO TUBERWORM (Phthorimaea operculella) - MARYLAND - Populations and damage well above normal in Prince Georges, Charles, Anne Arundel, St. Marys, and Calvert Counties. Most infestations occurred in home or farm storage. Several hundred bushels damaged throughout area. (U. Md., Ent. Dept.).

BENEFICIAL INSECTS

LADY BEETLES - MAINE - Coccinella transversoguttata (transverse lady beetle), Hippodamia convergens (convergent lady beetle), Hippodamia tredecimpunctata (thirteenspotted lady beetle), and Coccinella trifasciata heavy in central area cornfields where aphids previously heavy. Adults most abundant, larvae and pupae still numerous. Some H. parenthesis noted. Lady beetle populations and number of species still heavier than in past 9 years. (Gall).

A DILARID (Nallachius americanus) - KENTUCKY - Adult male collected in blacklight trap near Anton, Hopkins County, July 25, 1974, by D.E. Barnett. Determined by Christina Sperka. This is a new county record. Larvae of this neuropteron are predaceous. (Barnett).

A SCOLIID WASP (Scolia dubia) - MARYLAND - Adults active in several areas of Prince Georges and Charles Counties over past 21 days. Heaviest counts ranged 50-250 per acre. Activity appears above normal this season. (U. Md., Ent. Dept.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Single male fly taken in McPhail trap in orange tree at Clairemont, San Diego County, September 6, 1974, originally reported in CEIR 24(37):748, collected by K. Jones and determined by T. Seeno. Of 6 flies taken September 10 in Steiner trap hung in pepper tree, one confirmed as D. orientalis; 5 not yet determined. Additional flies collected September 12 not yet confirmed: 2 flies in McPhail trap, one in Steiner trap in sapote tree, and 2 in pepper tree. Present area of involvement about 10 square miles. Area is residential and recreational, not commercial fruit-growing area. (Cal. Coop. Rpt.). Single male fly taken in Steiner trap in orange tree in residential area of Panorama City, Los Angeles County, September 17, 1974, by Miller. Determined by R. McCrea. This area about 100 miles from collections at Clairemont. (PPQ).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Averaged 6 per 100 cotton bolls from Las Cruces south in Dona Ana County. (N.M. Coop. Rpt.). OKLAHOMA - Single larva found in cotton boll in Payne County. (Okla. Coop. Sur.).

DETECTION

New County Records - ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) WEST VIRGINIA - Greenbrier, Ohio (p. 758). BALSAM WOOLLY APHID (Adelges piceae) OREGON - Umatilla (p. 758). A DILARID (Nallachius americanus) KENTUCKY - Hopkins (p. 760). EUROPEAN ALFALFA BEETLE (Subcoccinella vigintiquatuorpunctata) WEST VIRGINIA - Taylor (p. 755). FACE FLY (Musca autumnalis) KENTUCKY - Shelby, Franklin (p. 760). OKLAHOMA - Tulsa (p. 759). FIRE ANT (Solenopsis geminata) SOUTH CAROLINA - Chesterfield (p. 754). LESSER CORNSTALK BORER (Elasmopalpus lignosellus) SOUTH CAROLINA - Laurens (p. 757), Marlboro (p. 755). WALKINGSTICK (Diapheromera femorata) OKLAHOMA - Sequoyah (p. 759). WESTERN CORN ROOTWORM (Diabrotica virgifera) INDIANA - Steuben (p. 753).

CORRECTIONS

CEIR 24(35):711 - Under Eriosoma americanum and Macrosiphum euphorbiae, Montpilier should read Montpelier.

General Vegetables - TOMATO PINWORM (Keiferia lycopersicella) and damage heavy in 2 acres of tomatoes at Mountain View and Hilo, Hawaii Island. Damage resulted in 30-40 percent fruit damage. Damage decreased appreciably in 80 acres of potatoes at Kohala; intensive spray program begun after heavy damage first observed in August (see CEIR 24(33):660). (Yoshioka).

General Pests - Two more adults of a SPHINGID MOTH (Theretra nessus) collected on Oahu at Campbell Industrial Park and at Manoa. No larvae yet collected. (Howarth, Mau). See CEIR 24(35): 699 for collection of first moth. (PPQ).

Fruits and Ornamentals - BANANA SKIPPER (Erionota thrax) larvae severely damaged about 8 acres of banana at Waiahole, Oahu; all trees infested or showed damage, all leaves on each tree damaged. Estimated 85 percent of total leaf area destroyed, many trees with only leaf midribs. Adults active, too numerous to count. Eggs so numerous, 500+ collected in short time. Damage moderate to heavy on adjacent 6-acre planting. Most trees damaged, but only 40-50 percent of leaves infested or showed damage. Estimated 30 percent of leaf area destroyed. Damage light in 2-acre planting closeby. Only 50-60 percent of trees infested; estimated 20 percent of all leaves showed damage and 10 percent of total leaf area destroyed. (Murai et al.). Several larvae of a NOCTUID MOTH (Anua indiscriminata) collected from guava trees (Psidium guajava) at Manoa, Oahu. Larvae found near branch tips and associated with damaged young leaves. Light damage observed on guava throughout valley, indicating pest may be well established on Oahu. Larvae have now been reported from Salt Lake, Kohala, and Manoa. (Mau).

Forest and Shade Trees - Infestation of an ADELGID (Pineus pini) found for first time in 200 acres of pine at Kemole, Hawaii Island. Stone pine (Pinus pinaster) particularly infested. Infestation at Kemole about 5 miles from original discovery site at Waikii. (Yoshioka).

Beneficial Insects - Releases of a GALL FLY (Procecidochares sp.) continued on Hawaii and Oahu Islands. About 9,000+ flies released since April 1974 (see CEIR 24(18):306 and 24(28):527). Galls observed on Hamakua pamakani at Kona and Volcano on Hawaii Island and at Nuuanu, Oahu. Indications to date are that Procecidochares sp. will be a major control agent of Hamakua pamakani (Ageratina riparia) in State. (Mau).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege rantalis (garden webworm)	Mamestra quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 9/6-12			BL					1		2						1		2	1	7	3	2		
ILLINOIS (County)																								
Ogle 9/3-9			BL	11						19							57	1	29			5		
KENTUCKY																								
Lexington 9/10-12			BL						1							1			5		3			
MICHIGAN (Counties)																								
Lenawee 9/4-9			BL	17													16	20	28			22		
Oceana 9/4-9			2BL	18													33	30	43			34		
MISSISSIPPI																								
Stoneville 9/6-12	59-89	0.39	2BL	6	6			18	10	56									9	55	22	26	1293	
NEW HAMPSHIRE																								
Lee 9/9			BL											1			2		3		3			
NEW MEXICO																								
Las Cruces 9/9-13			4BL		3					37					44	17								
OHIO																								
Wooster 9/7-9			BL	65						3							18	53	28		92	3	3	
OREGON (Counties)																								
Linn 9/5-11			BL	19														61						
Marion 9/5-11			2BL	5														32						
PENNSYLVANIA (Districts)																								
Central 9/3-10			BL	4						1								8	4		3	17		
South East 9/3-10			BL	1														12	6					
TENNESSEE (Counties)																								
Lake 9/9-11			BL	7						18					4				1			3	4	
Madison 9/9-11			BL	20						16					2				7			7	13	

Weather of the week continued from page 752.

Showers and thundershowers occurred along a cold front from the Texas Panhandle to northern Lake Huron. Over 2 inches of rain were reported at Omaha, Nebraska, in little over 3 hours. Sections of northwestern Missouri got nearly 4 inches of rain. Friday, a cold front stretching from south-central Texas into Michigan produced heavy rains in southern Texas and the lower Mississippi Valley. College Station, Texas, reported 3.78 inches of rain in only 6 hours. Thundershowers were scattered over much of Florida, the southern Rockies, and the central and southern Plateaus on Saturday. Locally heavy thunderstorms soaked extreme southern Nevada. Sunday, light to moderate rain fell in west Texas, southeast New Mexico, eastern Kansas, central Missouri, and the northern Great Lakes.

TEMPERATURE: Below normal temperatures covered a wide portion of the central U.S. last week. Elsewhere readings were near normal or above. Cold air from Canada caused temperatures in the Nation's heartland to average as much as 8 degrees below normal. Average temperatures for the week plummeted well below normal as far south as Texas and from the Mississippi River west through the Plains States into the north-central Rockies. Temperatures averaged as much as 8 degrees below normal at Abilene, Texas, and Casper, Wyoming, while most of the Corn Belt States remained near normal to 3 degrees below. Meanwhile, a southerly air flow ahead of a front kept average temperatures in the East normal or above during the week. However, temperatures cooled markedly over the weekend as the cold front moved over the Atlantic. Monday, temperatures were warm in the West. Record highs for the day were set at Casper, Wyoming, 88 degrees, and Phoenix, Arizona, 110 degrees. Record highs were set Tuesday in several Colorado cities: Pueblo 97 degrees, Denver 93 degrees, and Colorado springs 90 degrees. Wednesday, cold air flowing southward from Canada dropped temperatures to just above freezing. Cut Bank, Montana, reported a low of 33 degrees. During the afternoon, colder air from behind the storm front pushed south into the central Plains and Rockies holding midday temperatures in the 40's and 50's. The weather system spread unseasonably cold air south from the upper Rockies, Plains, and Mississippi Valley into the Texas Panhandle on Thursday. Evanston, Wyoming, reported a freezing 20 degrees and Dalhart, Texas, plummeted to 49 degrees. Friday, a High pressure system centered in Canada swept cold air into northern and central portions of the Nation. Record lows were set in Nebraska at Grand Island 34 degrees, Omaha 35 degrees, North Platte 26 degrees, and St. Joseph, Missouri, 39 degrees. Saturday morning, a cold air mass was centered in the middle Mississippi Valley. Many stations reported temperatures in the 30's and 40's. New lows were recorded in Iowa, Kansas, Nebraska, and Missouri. Sunday, temperatures were much warmer across the Nation. Generally, afternoon readings were in the 60's or higher.

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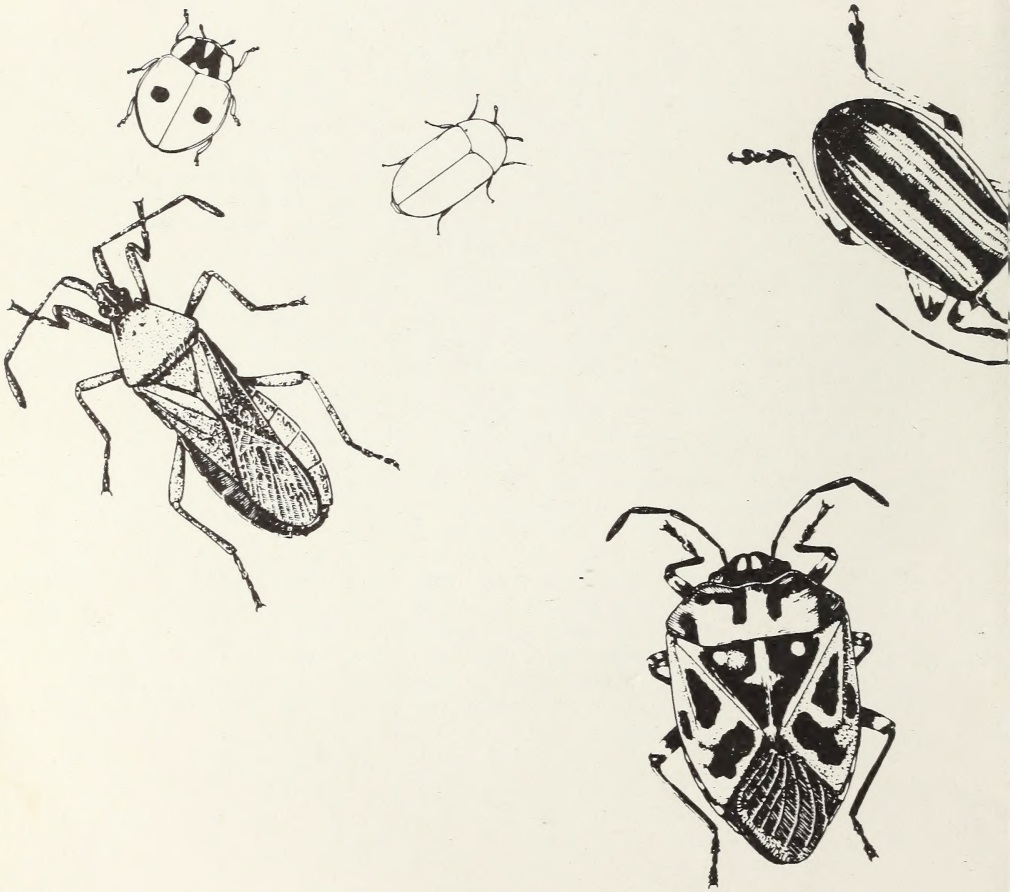
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